

**SECTION I – 40 Points**

1. True False (5 Points)

A normative economic statement cannot be tested since it represents a value judgment on what should happen in the present or the future.

2. True False (5 Points)

As the number of close substitutes increases, the price elasticity of demand of a good increases.

3. Select the most inaccurate statement from the choices below. (5 Points)

A. The Law of Demand, which states that price and quantity demanded are negatively related, is driven by the principle of decreasing marginal utility.

B. The Law of Supply, which states that price and quantity supplied are positively related, is driven by the principle of decreasing marginal returns to production.

C. If two goods are substitutes, the cross-price elasticity between the price of one good and quantity demanded of the other good would be negative.

D. A constant opportunity cost Production Possibilities Frontier is graphically represented by a line with constant slope.

4. Select the most inaccurate statement from the choices below. (5 Points)

A. Price elasticity measures the responsiveness of one good to changes in price of another good.

B. Income elasticity measures the responsiveness of quantity demanded of a good to changes in income.

C. A decline in producer expectations will induce a decrease in market supply.

D. The economic question “What will a society produce” is most closely associated for the allocative measure of economic efficiency.

5. Select the most accurate statement from the choices below. (5 Points)

If the price elasticity of widgets is  $-1.5$  and the income elasticity of widgets is  $-2.5$ , then:

- A. Widgets are price inelastic and a normal good.
  - B. Increasing the price of widgets will increase total revenue.
  - C. Widgets are price elastic and a normal good.
  - D. Widgets are income elastic and lowering price will increase total revenue.
  - E. Widgets are cross-price elastic and an increase in income will increase Qd.
6. If the price elasticity of milk is  $-0.45$  and 5 million gallons of milk are sold in Aptos per month, then if the price of milk increased by 10% (5 Points)
- A. Quantity demanded will rise by 10%
  - B. Demand will fall by 4.5%
  - C. Supply will increase by 10%
  - D. Quantity demanded will fall by 4.5%
  - E. None of the above
7. If the supply elasticity of corn is 1.5, then if the price of corn falls by 10% (5 Points)
- A. Quantity supplied will fall but total revenue will rise
  - B. Quantity supplied will rise and total revenue will rise
  - C. Market supply will fall and market revenue will rise
  - D. Market supply will rise and market revenue will rise
  - E. None of the above
8. Select the most appropriate answer from the choices below. (5 points)
- A. Economics is hard but fun
  - B. Economics is easy and fun
  - C. Economics is neither easy nor fun
  - D. Who cares what the answer is, just give me the five points.

## **SECTION II – 60 Points**

Instructions: Read all questions carefully. Extracting the necessary information from the question may assist you in answering each problem. Show all your work to receive full or partial credit. Illustrations may assist you in receiving full or partial credit. Including information not applicable to the problem may result in a loss of credit if the information is incorrect. Short, succinct, and correct answers are more likely to receive full credit than long answers.

If you have any questions, please ask me.

**Question II-1 (20 Points)**

Assume that Nike tennis shoes are a normal good and that the average price was \$70 per tennis shoe with 1.5 million sold in California in the first quarter of 2001. In the second quarter of 2001, the average price rose to \$75 and 1.35 million shoes were sold. In the first quarter, Adidas sold 750,000 shoes and Adidas sales increased to 925,000 in the second quarter of 2001.

1. As a market analyst for Nike shoes, would you recommend increasing the price of Nike shoes to \$80 a shoe? Using the concepts of price and cross-price elasticity, support your answer and make sure to calculate the impact of the proposed price increase on quantity and total revenue (10 Points).
2. Assuming that the proposed price increase is adopted and that the income elasticity for tennis shoes is 1.75, what would be the impact of a 5% increase in personal income on the sales of Nike and Adidas? Make sure to use the new sales estimates for Nike and Adidas as a result of the Nike price increase from \$75 to \$80. Calculate and present your answer. (10 Points)

### **Question II-2 (30 Points)**

You are working for the Office of Management and Budget as an economic analyst. Currently, the market price for wheat is \$1.75/bushel with 150 million bushels sold annually in the United States. In previous research, you have determined that the price elasticity of demand is -1.25, income elasticity is 0.45, and the price elasticity of supply is 0.75. The cross-price elasticity of wheat with respect to corn is -2.30.

1. Senator Jones of Oklahoma has introduced the “American Farmer Protection Act” which would require that the minimum legal price for wheat be set at \$3.00 a bushel. Discuss and illustrate what impact, all else remaining equal, this proposal would have on the market for wheat in the United States. (10 Points)
  
2. Assuming that Senator Jones’ proposal is defeated. Discuss and graphically illustrate what would happen to the market price and quantity of wheat if the supply of wheat increased by 10% and the demand for wheat increased by 20%. (5 Points)
  
3. Using the information provided in the problem introduction, if the price of corn increased 10%, all else remaining equal, what would be the impact, in percentage terms, on the quantity supplied of wheat? (5 Points)
  
4. Using the information provided in the problem introduction, if personal income increased by 5%, what would be, all else remaining equal, the impact, in percentage terms, on the quantity demanded of wheat? (10 Points)

**Question II-3 (10 Points)**

Assume that Canada can produce, when all resources are fully and efficiently employed, 5 billion tons of corn and no computers or 20 million computers and no corn.

1. Using a increasing-cost (diminishing returns) production possibilities frontier, illustrate the production possibilities of Canada using the above information. Provide examples of inefficient, efficient, and unattainable combinations of corn and computers. (10 Points)

2. In your own words, describe the difference between a constant-cost and increasing-cost production possibilities frontier. (10 Points)

## Answer Key

1. True
2. True
3. C
4. A
5. D
6. D
7. A
8. A, B, C, D

## Part II

### Question 1

1. No, since demand is price elastic, increasing price will lead to a decline in total revenue

Price elasticity = -1.53

Cross price elasticity = 3.03

Proposed % change in price = 6.67%

Impact on quantity demanded if price increased = -10.18%

Quantity demanded if price increased = 1.21 million

New total revenue if price increased = 96.8 million

Old total revenue = 101.25 million

Difference in total revenue = 4.45 million decline if price increased

2. If price of Nike increased to \$80, then the quantity demanded for Adidas would rise. Using cross-price elasticity and the percentage change of price of Nike, the % change in Qd for Adidas would be 20.20%, resulting in a new quantity demanded of 1.11 million.

Elasticity of income = 1.75

Percentage change in income = 5.00

Percentage change in quantity demanded = 8.75

New quantity demanded for Nike = 1.32 million

New quantity demanded for Adidas = 1.21 million (using the 1.11 million as a starting point)

### Question 2

1. This would be a price floor, resulting in a surplus. Student to illustrate a surplus.
2. Price and quantity would rise.
3. Typo, should read price of wheat. Qd wheat would decline by 11.25%
4. 2.25 percent increase

### Question 3

1. Student to use standard graph of PPF depicting inefficient, efficient, and unattainable combinations of corn and computers.
2. Student to note that a constant-cost PPF assumes that the tradeoff between the two goods is constant (constant opportunity costs, constant returns) while an increasing-cost PPF assumes that the tradeoffs between the two goods changes (increasing opportunity costs, diminishing returns).